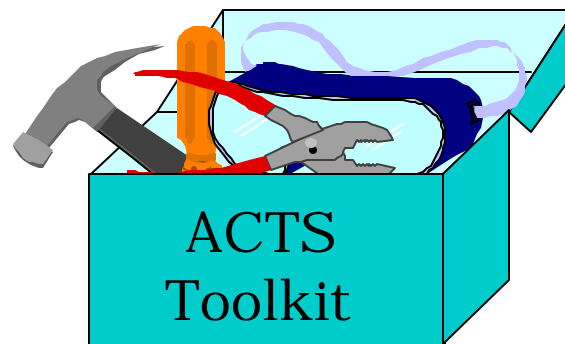


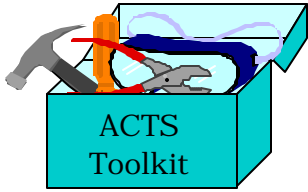
The Advanced Computational Testing and Simulation Toolkit:

Interoperable Software for the 21st Century



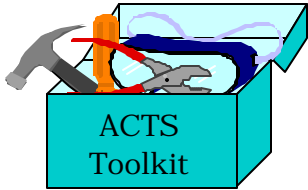
James R. McGraw

Lawrence Livermore National Laboratory

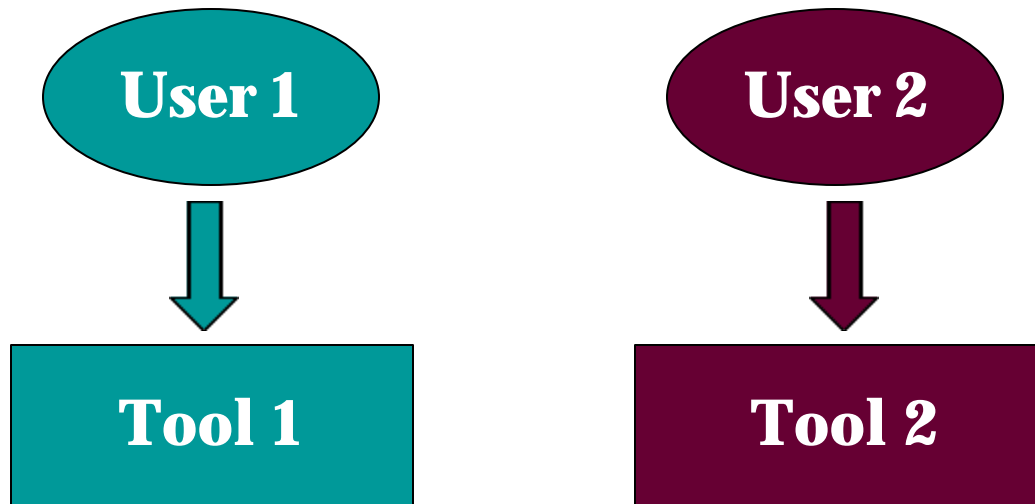


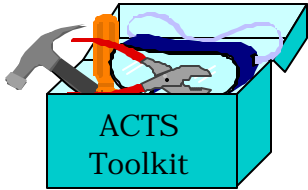
ACTS Toolkit

The Advanced Computational Testing & Simulation Toolkit is an integrated set of software tools, algorithms, and environments that accelerate the adoption and use of advanced computing for mission-critical problems.

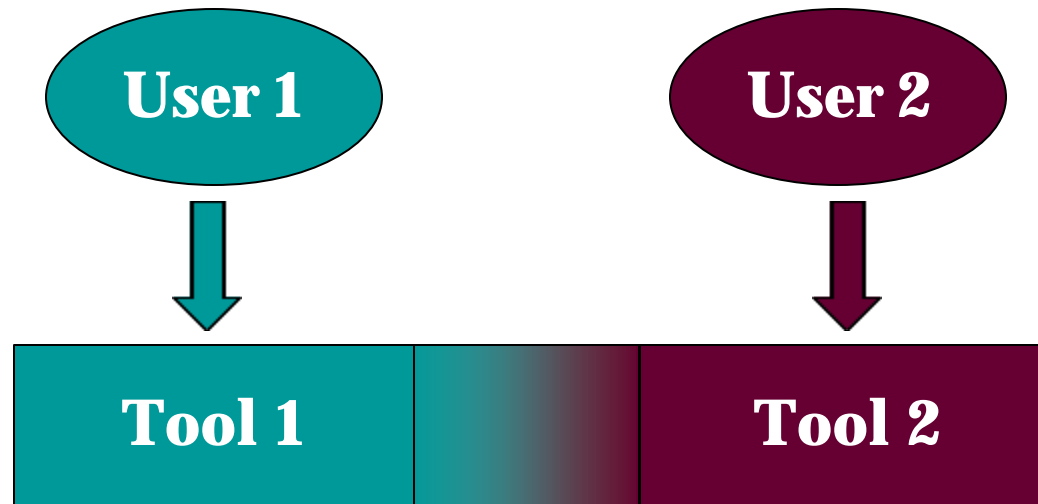


ACTS Toolkit Concept

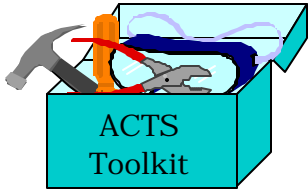




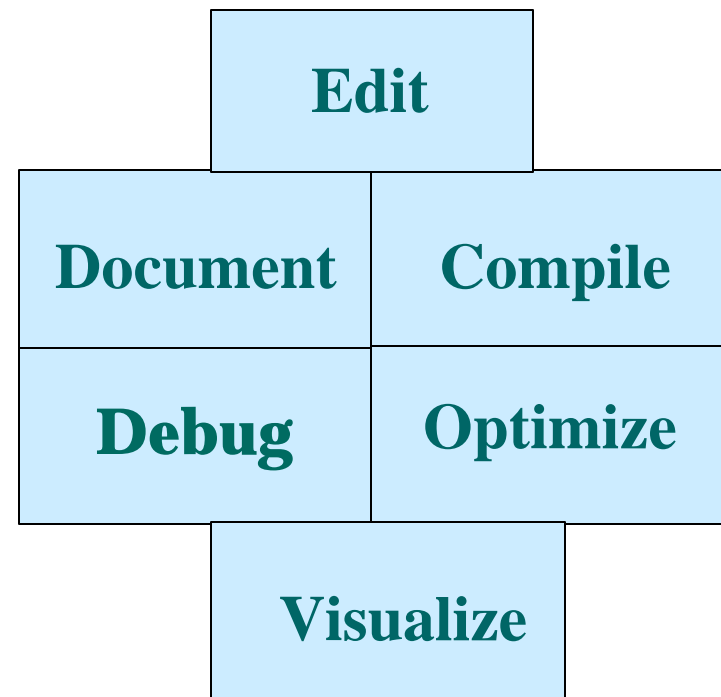
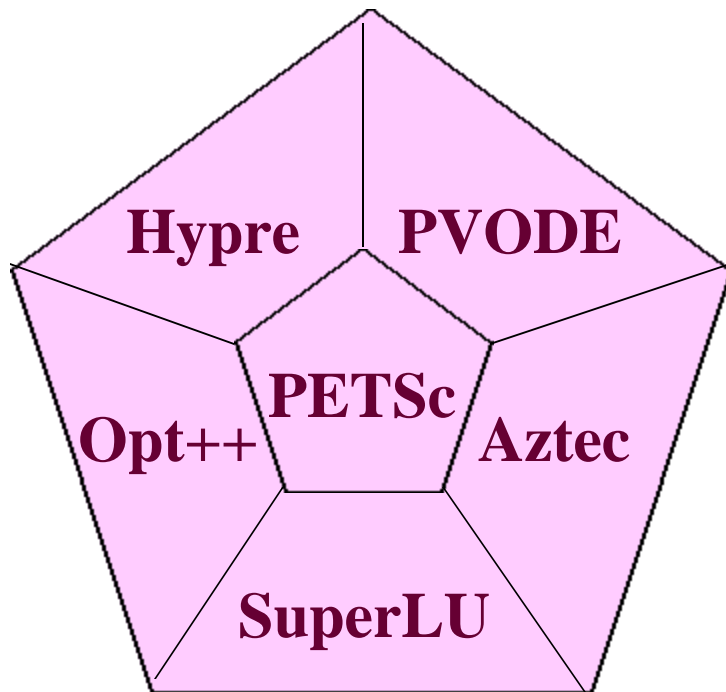
ACTS Toolkit Concept

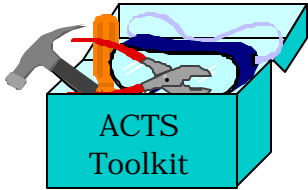


**Funding
For Tool
Interoperability**



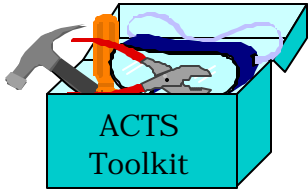
Overarching Theme: *Interoperability*



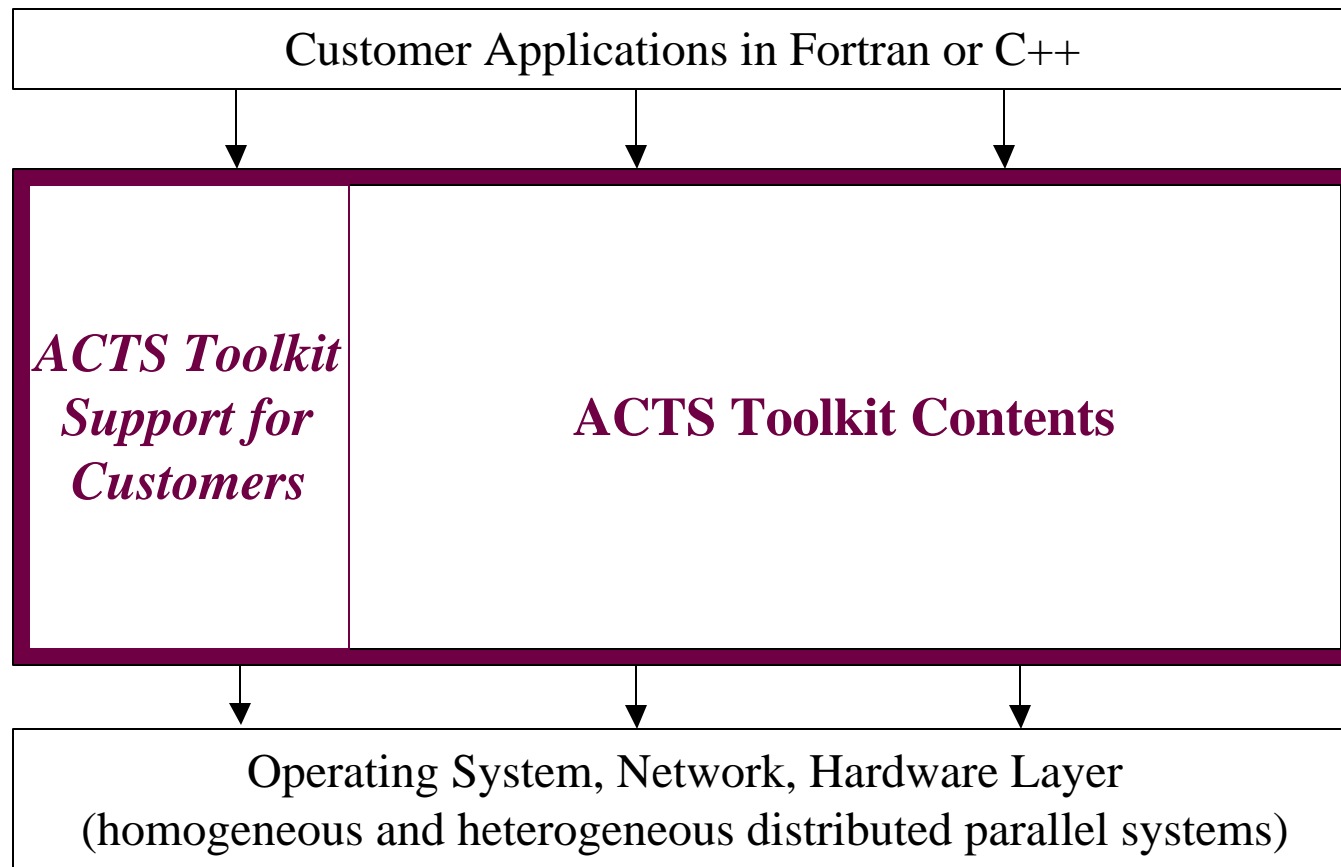


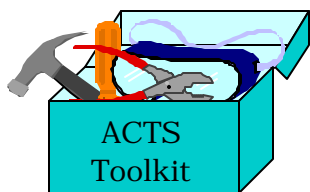
Metrics for Success

- **More clients using the software tools**
- **Improved performance of tools for clients**
- **Reduced duplication of effort in tool development**
- **Providing new capabilities**
- **Publications**



ACTS Toolkit: Context





ACTS Toolkit: Current Contents

	Round 1 Funding	Round 2 Funding
Application Support Tools		Develop object-oriented tools for writing PIC codes.
Numerics	Adapt numerical solver libraries to permit interoperable use.	Adapt numerical optimization libraries to permit interoperable use.
Code Development Tools	Integrate object-oriented libraries for parallel distributed arrays.	Expand tools for managing arrays on memory hierarchies and enable linking to class libraries.
Code Execution Tools	Integrate a parallel run-time class library with remote steering and visualization.	Integrate debugging and analysis tools for use on computational grids.

